

SOV/44-58 - 4- 2635

Translation from: Referativnyy zhurnal, Matematika, 1958,
Nr 4, p 6 (USSR)

AUTHOR: Pavlyuk, I.A.

TITLE: Klavdiya Yakovlevna Latysheva

PERIODICAL: Nauk. zap. Kyivs'k. un-ta, 1957, 16, Nr 2, pp 159-162

ABSTRACT: See RZh Mat, 1957, 1987.

Card 1/1

PAVLYUK, I.A.

Necessary and sufficient conditions for limitation and inclusion in space $L_2(\alpha, \infty)$ of solutions for one class of linear differential equations of the second order. Dop.AN URSR no.2:156-158 '60. (MIRA 13:6)

1. Kiyevskiy gosudarstvennyy universitet im.T.G.Shevchenko. Predstavleno akademikom AN USSR I.Z.Shtokale.
(Differential equations, Linear)

PAVLYUK, I.A.

Asymptotic properties of the solution of the equation $y'' - p(x)y + x^2 q(x)y = 0$
with large parameter values. Dop. AN USSR no. 10:1323-1325 '60.
(MIRA 13:11)

1. Kiyevskiy gosudarstvennyy universitet im. T.G. Shevchenko
Predstavleno akademikom AN USSR I.Z. Shtokalo.
(Differential equations)

PAVLYUK, I.A.

Necessary and sufficient condition for nonoscillation of solutions
of a linear differential equation of the second order. Nauk.zap.
Kyiv.un. 16 no.2:111-113 '57. (MIRA 11:11)
(Differential equations)

PAVLYUK, I.A.

Klavdiia Iakovlevna Latysheva; obituary. Nauk.zap.Kyiv.un. 16
no.2:159-162 '57. (MIRA 11:11)
(Latysheva, Klavdiia Iakovlevna, 1897-1956)

PAVLYUK, I.A.

Klavdia Iakovlevna Iatysheva; obituary. Ukr. nat. zhur. 8 no.3:
342-344 '56. (MIRA 10:9)

(Iatysheva, Klavdia Iakovlevna, 1897-1956)

46606-66 JEP(c) JEP(c)

ACC NR: AF6011415

SOURCE CODE: UR/0021/66/000/003/0302/0306

AUTHOR: Pavlyuk, I. A.

ORG: Kiev State University (Kyyivs'kyi derzhavnyi universytet)

TITLE: Method of investigating second order differential equation systems

SOURCE: AN UkrRSR. Dopovidi, no. 3, 1966, 302-306

TOPIC TAGS: second order differential equation, Volterra equation, matrix element, integral equation

ABSTRACT: There is a system of differential equations

$$x'' + \lambda^2 Q(t)x = F(t, x, x'), \lambda \neq 0,$$

where $Q(t)$ is a quasi-diagonal matrix of order $n \times n$ and λ is an arbitrary parameter. It is shown that when appropriate conditions are imposed on the matrix $Q(t)$, this system is reduced to a standard equivalent system of Volterra type integral equations. The result is realized by means of a matrix differential invariant especially constructed of matrix $Q(t)$ elements. Presented by I. Z. Shtoralo, member of AN URSR. [Based on author's abstract.] [NT]

SUB CODE: 12/ SUBM DATE: 19Mar65/ ORIG REF: 004/

Card 1/1 mjs

L 47561-66 EWT(d), EWT(1) IUP(c)

ACC NR: AP6032412

SOURCE CODE: UR/OC21/66/000/009/1125/1127

AUTHOR: Mel'nychenko, I. P. Mel'nichenko, I. P.; Pavlyuk, I. A. 35

ORG: Kiev State University (Kyyivs'ky derzhavnyy universytet) B

TITLE: On a variational problem on the dynamics of a body of variable mass

SOURCE: AN UkrRSR. Dopovidi, no. 9, 1966, 1125-1127

TOPIC TAGS: *flight dynamics*, variable mass *system*, *flight mechanics*, variational method, Cauchy problem,

ABSTRACT: The variational problem of the motion of a body of variable mass described by the equation

$$m(t) \frac{dv}{dt} + A_0 v^2 + c \frac{dm}{dt} + m(t) g = 0, \quad (1)$$

where $m(t)$ is the variable mass of the body, v is its velocity, c is the relative constant exhaust velocity, and g and A_0 are the gravitational and drag constants, respectively, is analyzed. This variational problem is formulated as follows: from all possible functions $m(t)$, we are to choose that one which maximizes the performance functional

$$x(t) - x_0 = \int_{t_0}^t v(t) dt. \quad (2)$$

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ACC NR: AP6032412

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To solve this problem, the asymptotic methods of the theory of differential equations are applied. By various substitutions, equation (1) is reduced to the canonical form

$$z'' + f(t)z = 0, \quad (3)$$

where $f(t) < 0$ for $t \geq t_0$ and $\int_{t_0}^{\infty} |f'(t)| dt < \infty$.

The solution of the Cauchy problem for equation (3) with the initial condition

$$v(t_0) = v_0 \quad (4)$$

is sought. The fundamental system of solutions of equation (5) is derived in asymptotic form, and finally, the approximate general solution $v(t, t_0)$ is presented in analytic form which at $t \rightarrow \infty$ becomes an expression that does not depend on the initial conditions. Therefore, the variational problem (2) is reduced to determining the maximum of a functional whose explicit form is known. The problem of determining the law of variation for $m(t)$ is considerably simplified because this law must be established in a certain class of functions with one unknown parameter. Orig. art. has: 10 formulas [LK]

SUB CODE: 01/ 8 PM DATE: 26Aug65/ ORIG REF: 002/ ATD PRESS: 5095

eva
Cord 2/2

PAVLYUK, I.M.; CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn.red.

[Guidebook for the "Grain and Oilseed Crops" Pavilion]
Pavil'ion "Zernovi ta oliini kul'tury." Putivnyk. Kyiv,
Derzh. vyd-vo sil's'kohospodars'koi lit-ry URSR, 1963. 37 p.
(MIRA 17:3)

1. Kiev. Vystavkaпередового досvidu v narodnomu ~~hospodar-~~
stvi URSR.

PAVLYUK, I.M.

Amino acid composition of micoproteins of the rumen contents of
cattle. Dop. AN 'KSE no.5:63'-633 '65.

'MIRA 18:5.

1. Ukrainskiy nauchno-issledovatel'skiy institut fiziologii i
biokhimii sel'skokhozyaystvennykh zhiivotnykh.

GZHITSKIY, S.Z. [Hzhys'ts'kiy, S.Z.]; LEMISHKO, A.M. [Lemishko, O.M.]; PAVLYUK, I.M.

Histochemical study of mucopolysaccharides in the rumen wall of cattle.

Dop. AN URSR no.1:89-91 '64.

(MIRA 17:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut fiziologii i biokhimi
sel'skokhozyaystvennykh zhivotnykh. 2. Chlen-korrespondent AN UkrSSR (for
Gzhitskiy).

YASTREBOV, S.M.; PAVLYUK, I.P.

Production of pickles, candied peels and concentrated juices in
canning factories in Hungary. Kons. i ov. prom. 14 no. 2:41-42
F '59. (MIRA 12:3)

1. Dagestanskiy konservnyy trust (for Yastrebov). 2. Adygyskiy
konservnyy kombinat (for Pavlyuk).
(Hungary--Canning industry--Equipment and supplies)

EXHIBIT 1

Beets and Beet Sugar

Organizing the sugar beet harvest. *Pravda*, 1950, 1, 17-18.

9. Monthly List of Russian Accessions, Library of Congress, November 1958, Uncl.

PAVLYUK, K.A.

Response to M.S. Zarudi's article "Centralized feeding of high
frequency systems." Prom.energ. 16 no.7:57-58 J1 '61. (MIRA 15:1)
(Smelting furnaces) (Induction heating)

PAVLYUK, L.S., entomolog

Protecting stored grain and grain products from pests. Zashch.
rast. ot vred. i bol. 3 no.5:12 S-0 '58. (MIRA 11:10)

1. Orenburgskoye upravleniye khleboproduktov.
(Grain--Diseases and pests)

BARANOVSKAYA, I.A.; KRYLOV, P.S.; PAVLYUK, L.V.

Taxonomic list of the species and genera of plant nematodes
described in 1962-1963. Trudy Gel'm. lab. 16:5-16 '65.

(MIRA 19:2)

15.26:0

39009
S/198/62/008/004/005/006
D407/D301

AUTHOR: . Pavlyuk, M.F. (Zaporizhzhya)

TITLE: Dynamic expansion of an elastic-plastic cylinder,
failure of the material being taken into account

PERIODICAL: Prykladna mekhanika, v. 8, no. 4, 1962, 419 - 424

TEXT: An infinitely long elastic-plastic cylinder is considered. At the initial moment of time, the internal surface of the cylinder is subjected to the pressure pulse I; no forces act on the surface in the following moments. At $t = t_0$, the plastic strains, which at first arise only at the interior surface, propagate through the entire cylinder; thereupon plastic expansion follows, accompanied by the appearance of radial cracks. A number of assumptions are made with regard to the material of the cylinder and the directions of the stress and strain-rate tensors. The system of equations, describing the processes under consideration, is set up. After the material has passed completely into the plastic state, the cylinder begins to expand,

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Dynamic expansion of an ...

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its boundaries change , and radial cracks appear. Formulas and notations of an earlier work by the author are used. It is assumed that the radial cracks lead to failure of the material at the moment in which the internal radius of the cylinder assumes the value $a = a_s$, and the initial pressure I is so great that the cylinder continues to expand. The problem reduces to solving the differential equation

$$\frac{dx}{dz} + xf(z) + \frac{2K}{\rho} \varphi(z) = 0, \quad (19)$$

where $x(z) = (dR / dt)^2$ is the square of the relative rate of failure; R is the relative radius of failure; $z = R / a_0$; f and φ are certain functions; K is the plastic constant; ρ is the density. Eq. (19) is solved in quadratures. The formula for the pressure, which leads to complete failure of the elastic-plastic cylinder, shows that the case under consideration differs from the case of an ideally plastic cylinder by virtue of the initial conditions. There is 1 figure.

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Dynamic expansion of an ...

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D407/D301

ASSOCIATION: Zaporiz'kyy mashynobudivnyy instytut (Zaporizhzhya
Machine-Building Institute)

SUBMITTED: December 21, 1960

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Card 3/3

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107000

25114
S/198/61/007/003/003/013
D264/D303

AUTHOR: Pavlyuk, M. F. (Zaporizhzhya)

TITLE: Dynamic expansion of a plastic hollow sphere taking into account the breakdown of the material

PERIODICAL: Prikladna mekhanika, v. 7, no. 3, 1961, 413 - 420

TEXT: The author states that in an earlier paper (Ref. 2: *Dynamichne rozshyrennya plastychnoho tsylindra z urakhuvannyam raynuvalnnykh materialy* (Dynamic Expansion of a Plastic Cylinder Taking into Account the Breakdown of the Material) *Prikladna mekhanika*, v. III, v. 4, 1957) he dealt with the case of the dynamic expansion of an axisymmetric body. He now extends his method to the case of spherical symmetry. A plastic hollow sphere, internal radius a_0 , external radius b_0 is considered. At the initial instant of time there is an impulse of pressure on the internal surface of the cylinder, and at subsequent instants there are no forces acting on the surface. A

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Dynamic expansion of a ...

spherical polar coordinate system is taken, with its origin at the center of the sphere. The deformations in the θ -direction and in the φ -direction will be equal. Under the impulse I the plastic sphere will expand in such a way that in material already deformed in the θ and φ directions at the instant $t = t_s$, radial cracks will be

formed, whose expansion leads to the breakdown of the material. In an incompressible material, the cracks appear first on the inside surface. After the cracks appear, the material is divided into two regions by a sphere of radius $r = r_s$ into two zones - one plastic and one in a condition of breakdown. The velocity of fragments in the breakdown state is to be found from the velocity in the limiting plastic zone. In the limiting zone, the pressure acts in the radial direction, giving $\sigma_\theta = \sigma_\varphi$ for $r = r_s$. It is assumed that

the material of the sphere is incompressible and satisfies in the breakdown state, the conditions of ideal plasticity, and that the directions of the principal axes of the stress tensor and the tensor of deformation velocity coincide for each point of the plastic

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Dynamic expansion of a ...

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zone. The following notation is adopted: v_r, v_θ, v_φ are the components of velocity of a fragment; $\sigma_r, \sigma_\theta, \sigma_\varphi, \tau_{r\theta}, \tau_{\theta\varphi}, \tau_{\varphi r}$ are the components of the stress tensor; $e_r, e_\theta, e_\varphi, \gamma_{r\theta}, \gamma_{\theta\varphi}, \gamma_{\varphi r}$ are components of the deformation velocity tensor; ρ is the density of the material, and K the plastic constant. Under the conditions of radial symmetry and with the above assumptions, the equation of motion, the conditions of incompressibility, and the condition of ideal plasticity are given. By a consideration of the boundary conditions a solution is obtained with the form

$$\left(\frac{da}{dt}\right)^2 = \frac{b}{a^3(b-a)} \left[D - \frac{8K}{3q} (b^3 \ln b - a^3 \ln a) \right]; \quad (8)$$

where D is a constant of integration and $a(t), b(t)$ are connected by the relationship

$$b^3 - a^3 = c_0^3 \quad (c_0 = \text{const}),$$

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D264/D303

Dynamic expansion of a ...

and a and b are stated to be variable radii. (8) satisfies the problem up to the appearance of the crack. Integrating (1) and solving for boundary conditions, the author obtains Eq.

$$I_1^2 = \frac{8}{3} K_0 \frac{b_0 - a_0}{a_0 b_0} \left(a_0^3 \ln \frac{b_0}{a_0} - a_0^3 \ln \frac{b_0}{a_0} + c_0^3 \ln \frac{b_0}{a_0} \right). \quad (15)$$

It is supposed that the crack appears when the internal radius $a = a_s$. The instantaneous coordinates of a fragment of the material are given by $r = r_0 + u(r_0, t)$ where r_0 is the initial coordinate and u_0 the radial displacement. In the case of spherical symmetry the displacements in the θ and φ directions are given by $\epsilon_\theta = \epsilon_\varphi = \frac{u}{r}$ and in the boundary condition $\left(\frac{u}{r}\right)_{r=r_s} = \epsilon_s$. For the plastic zone $r_s < r < b$, the same conditions hold as previously. Finally, the impulse necessary for complete breakdown is given by

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Dynamic expansion of a ...

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$$I_n^2 = \frac{8}{3} K \rho a_0^2 \frac{1}{P(z_0)} \left[G(\lambda, z_0) + \frac{\sqrt[3]{a^2 \gamma^4}}{L(\lambda, z_0)} \int_0^{b_0/a_0} \varphi(\xi) e^{\int \eta(\xi) d\xi} d\xi \right] \quad (30)$$

where $z_0 = b_0/a_0$, and in this case the initial velocity of separation of the fragments is given by

$$V = \frac{a}{\sqrt[3]{(1+a)^2}} \sqrt{x(z_0)} = \sqrt[3]{a\gamma^2} \sqrt{x(z_0)}. \quad (34)$$

A numerical case is considered in which $a_0 = 1$ cm, $b_0 = 2$ cm, $\rho = (7.8/981)$ gr.sec²/cm⁴; $2K = 2000$ kg/cm²; $\epsilon = 0.05$. It is found that in this case breakdown begins under an impulse of $3425 \cdot 10^{-5}$ kg sec/cm² and external radius $b = 2.105$ cm. There are 3 figures and two Soviet-bloc references.

ASSOCIATION: Zaporiz'kyy mashynobudivnyy instytut (Machine-Building Institute of Zaporizhzhya)

SUBMITTED: June 6, 1960
Card 5/5

PAVLYUK, M.S. (L'vovskaya obl. Gorodok, ul. Peremyshlyanskaya, d.28, kv.3)

Mask for the administration of oxygen. Klin.khir. no.12:71

D '62.

(MIRA 16:2)

1. Khirurgicheskoye otdeleniye Gorodokskoy rayonnoy bol'nitsy
L'vovskoy oblasti.

(OXYGEN THERAPY—EQUIPMENT AND SUPPLIES)

PAVLYUK, M.S. (Gorodok, L'vovskoy oblasti, ul. Peremyshlyanskaya, d.28/3)

Carriage for lifting and hospital transportation of bedpatients.
Klin.khir. no.9:90-91 S '62. (MIRA 16:5)

1. Khirurgicheskoye otdeleniye Gorodskoy rayonnoy bol'nitsy
L'vovskoy oblasti.

(HOSPITALS—FURNITURE, EQUIPMENT, ETC.)

PAVLYUK, M.S. (Gorodok, L'vovskoy oblasti, ul. Peremyshlyanskaya, d. 28, kv. 3)

Preoperative verification of a novocaine solution. Klin.khir.
no. 7:81 J1 '62. (MIRA 15:9)

1. Khirurgicheskoye otdeleniye Gorodokskoy rayonnoy bol'nitsy
L'vovskoy oblasti i 2-ye khirurgicheskoye otdeleniye L'vovskoy
oblastnoy klinicheskoy bol'nitsy (zav. klinikoy - prof. G.G.
Karavanov).

(NOVOCAINE)

PAVLYUK, M.S. (L'vov, ul.Kalinina, d.34, kv.5)

Combined adapter-holder with tooth space for intubation anesthesia.
Nov. khir. arkh. no.4:122 J1-Ag '60. (MIRA 15:2)

1. Kafedra fakul'tetskoy khirurgii lechebnogo fakul'teta (zav. - prof.
G.G.Karavanov) L'vovskogo meditsinskogo instituta.
(INTRATRACHEAL ANESTHESIA)
(SURGICAL INSTRUMENTS AND APPARATUS)

PAVLYUK, M.S.

Portable bed-side table for blood transfusions. Nov. khir. arkh. no.12:
89 D '61. (MIRA 14:12)

1. Khirurgicheskoye otdeleniye (zav. - I.G.Garbuz) Gerodskoy rayonnoy
bol'nitsy, L'vovskoy oblasti.

(BLOOD--TRANSFUSION)

(MEDICAL INSTRUMENTS AND APPARATUS)

PAVLYUK, M.S. (Gorodok, L'vovskoy oblasti, ul.Paremyshlyanskaya, d.28, kv.3)

Device for securing the patient's hands to the operating table.
Nov. khir. arkh. no.9:84 S '61. (MIRA 14:10)

1. Khirurgicheskaya otdeleniye Gorodokskoy rayonnoy bol'nitsy,
L'vovskoy oblasti.

(SURGICAL INSTRUMENTS AND APPARATUS)

PETROVSKY, F., dr. (Praga); SATORIE, J. (Praga); PAVLYUK, Miklos [translator]

On loading of bulk goods. Kozl tud'sz 13 no.1:20-28 Ja '63.

1. Pragai Kozledekesi Kutato Intezet tudomanyos munkatarsa (for Petrovsky and Satorie).

PAVLYUK, N.

Entomophagous enemies of the root aphid. Zashch. rast. ot vred.
i bol. 10 no.3:41-42 '65. (MIRA 19:1)

1. Poltavskiy sel'skokhozyaystvennyy institut.

PAVLYUK, N.A., inzh.

Lantern with mercury switch. Put' 1 put.khoz. 7 no.4:37 '63.

(MIRA 16:3)
(Railroads—Equipment and supplies)

SINITSKIY, D.P., inzh.; PAVLYUK, N.A., inzh.

Rails treated for greater strength. Put' 1 put.khoz. 5 no.4:10
Ap '61. (MIRA 14:7)

1. Nachal'nik Berdyaushskoy distantzii Yuzhno-Ural'skoy dorogi
(for Sinitskiy). 2. Master po opitym rabotam, st. Berdyaush, Yuzhno-
Ural'skoy dorogi (for Pavlyuk).
(Railroads—Rails)

FAVLYUK, N.F. (Zaporozh'ye).

Some problems of the dynamics of a loose medium. Irinkl. text.
1 no.8:120-127 '65. MIRA (8:7)

1. Zaporozhskiy mashinostroyitel'nyy institut.

PAVLYUK, N.F. [Pavliuk, M.F.] (Zaporozh'ye)

Dynamic expansion of an elastoplastic cylinder considering the
breakdown of material. Prykl.mekh. 8 no.4:419-424 '62.
(MIRA 15:9)

1. Zaporozhskiy mashinostroitel'nyy institut.
(Cylinders)

PAVLYUK, N.F. [Pavliuk, M.F.] (Kiev)

Dynamic expansion of a plastic cylinder with its partial
destruction [in Ukrainian with summaries in Russian and English].
Prikl. mekh. 3 no.4:443-450 '57. (MIRA 11:2)

1. Institut matematiki AN URSR.
(Deformations (Mechanics))

PAVLYUK, N.F. (Zaporozh'ye); KICHAYEV, P.M. (Zaporozh'ye)

Effect of boundary conditions on stress concentration around a hole
in a spherical shell. Prikl. mekh. 1 no.6:42-47 '65. (MIRA 18:7)

1. Zaporozhskiy mashinostroitel'nyy institut.

PAVLYUK, N. F.: Master Phys-Math Sci (diss) -- "(n dynamic expansion, taking into account material breakdown in the case of axial and spherical symmetry". Kiev, 1958. 5 pp (Acad Sci Ukr SSR, Inst of the Physics of Metals), 150 copies (KL, No 6, 1959, L²)

L 28899-66 EWP(k)/EWT(d)/EWT(m)/EWP(w)/EWP(v) IJP(c) EN/WW

ACC NR: AP6019179

SOURCE CODE: UR/0198/65/001/006/0042/0047

AUTHOR: Pavlyuk, N. F. (Zaporozh'ye); Kichayev, P. M. (Zaporozh'ye)

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B/

ORG: Zaporozh'ye Machine Building Institute (Zaporozhskiy mashinostroitel'nyy institut)

TITLE: Effect of boundary conditions on stress concentration at the hole in a spherical shell

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SOURCE: Prikladnaya mekhanika, v. 1, no. 6, 1965, 42-47

TOPIC TAGS: stress concentration, spheric shell structure

ABSTRACT: The article considers the question of the effect of the outer edge of a finite spherical shell on the stress concentration at the circular hole at the center of the shell, which is subjected to uniform pressure. Use is made of the method of initial parameters, which makes it possible in simple form to determine the state of stress in a shell with a hole and to consider numerical examples. A concrete example is given.

Orig. art. has: 4 figures, 21 formulas and 1 table. [JPRS]

SUB CODE: 20, 13 / SUBM DATE: 18Jan65 / ORIG REF: 005

Cord 1/1

PAVLYUK, N.F. (Zaporozh'ye)

"Some problems of loose medium dynamics"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

PAVLYUK, N.F. [Pavliuk, M.F.] (Kiev)

Dynamic problem of a loose medium [with summary in English].
Prikl. mekh. 4 no. 2:217-222 '58. (MIRA 11:3)

1. Institut matematiki AN URSR.
(Dynamics)

PAVLYUK, N.I., assistant

Plant lice on beet roots. Zashch. rast. ot vred. 1 bol. 8
no.6:18-19 Je '63. (MIRA 16:8)

1. Poltavskiy sel'skokhozyaystvennyy institut.
(Poltava Province—Sugar beets—Diseases and pests)
(Poltava Province—Plant lice—Extermination)

PAVLYUK, N.I.

Aphid on sugar beets in Poltava Province. Zashch. rast. ot
vred. 1 bol. 6 no.11:55 W. '61. (MIRA 16:4)

1. Poltavskiy sel'skokhozyaystvennyy institut.
(Poltava Province—Sugar beets—Diseases and pests)
(Poltava Province—Plant lice)

PAVLYUK, N.N.

Improving the technological processes in classification yards.
Zhel.dor.transp. 46 no.12:58-62 D '64.

(MIRA 19:1)

1. Nachal'nik stantsii Losinoostrovskaya Moskovskogo uzla
zheleznikh dorog.

PAVLYUK, N.N., inzh.

Useful manual ("Manual for employees of passenger stations"
by V.V.Gordienko. Reviewed by N.N.Pavliuk). Zhel.dor.
transp. 42 no.7:95-96 J1 '60. (MIRA 13:7)

1. Zamestitel' nachal'nika stantsii Moskva-Passazhirskaya-
Kiyevskaya.

(Railroads--Employees) (Gordienko, V.V.)

PAVLYUK, N.P., inzh.; VAKUL'CHIK, V.G., inzh.; SERDYUK, N.S., inzh.;
KRYLOVA, A.S., inzh.; KHARITONOV, A.G., inzh.

Remote control and remote signaling apparatus for mine
ventilation systems. Ugol.prom. no.5164-66 S-0 '62.

(MIRA 15:11)

1. Luganskiy filial instituta avtomatiki Gosplana UkrSSR.
(Mine ventilation) (Remote control)

PAVLYUK, N.Z.

123 - 1 - 349

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957,
Nr 1, p. 61 (USSR)

AUTHOR: Pavlyuk, N.Z.

TITLE: Development of the Tool Manufacturing Industry
(Razvitiye instrumental'nogo proizvodstva)

PERIODICAL: Proizvoditel'nost' truda na Stalingradsk. trakt.
zavode. Sbornik. Stalingrad, Knigoizdat, 1955,
pp. 162-170

ABSTRACT: Various measures taken at the Stalingrad Tractor Plant
to improve different types of cutting tools are
presented. The design of a "free cutting" broach and
an improved adjustable reamer with cutting edges of
a hard alloy are described. Electric arc hard-facing
was introduced to cover the bodies of tool-holders
made of structural steel with a thin layer of speed
cutting steel in order to economize on high-alloy
tool steel. Stellite 3M -262 3M -184 and XBT

Card 1/2

PAVLYUK, N.S.; DENISHENKO, S.P.

Work system for division brigades on mechanized track sections.
Trudy TSNII MPS no.49:5-18 '51. (MLRA 9:7)
(Railroads--Maintenance and repair)

TYAZHKUN, Aleksey Petrovich, inzhener, PAVLYUK, Nikolay Stepanovich,
inzhener, KOSOGOROVA, Felena Petrovna, inzhener, ANTONOV, P.I.
redaktor; VERINA, G.P., tekhnicheskii redaktor.

[Work practice of maintenance men of the Promyshlennaya section
of the Tomsk railroad] Opyt raboty puteitsev Promyshlenskoi
distatsii Tomskoi dorogi. Moskva, Gos.transp.shel-dor izd-vo
1955. 33 p. (MLRA 8:11)

(Kemerovo Province--Railroads--Maintenance and repair)

PAVLYUK, P.M.; PAVLYUK, O.I.

Method of extinguishing foam inside a fermentation battery. Spirt.
prom. 27 no.1:43-44 '61. (MIRA 14:2)
(Fermentation) (Foam)

PAVLYUK, P.G., assistant

Investigating the precision of multicut turning. Izv.vys.ucheb.
zav.; mashinostr. no.9:122-135 '60. (MIRA 13:11)

1. Leningradskiy politekhnicheskii institut imeni M.I.Kalinina.
(Turning)

PAVLYUK, P.G.

Investigating the precision of multicut turning in relation to
the rigidity of a system. Nauch.-tekhn.inform.biul. LPI no.11:
106 '58.

(MIRA 12:11)

(Turning)

S/145/60/000/009/013/017
D221/D304

AUTHOR: Pavlyuk, P.G., Assistant

TITLE: Investigating the accuracy of multi-tool turning

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashino-
stroyeniye, no. 9, 1960, 122 - 135

TEXT: The system of machine-component-tool was investigated under a static load to simplify calculation of machining accuracy of multi-tool turning. The coefficients of rigidity of assemblies in a semi-automatic, type 116-2 at the Gor'kovskiy avtomobil'nyy zavod (Gor'kiy Car Plant) were measured, and then the radial displacements of the system were computed. The loading device was designed by the author. It is mounted on the front slide, with ring dynamometers pressing against a ball head on one side and a spherical washer on the other side (Fig. 1). The nut 13, is threaded on pin 14, and the load is thus transmitted to the machined component 15, and front slide 18. The displacements of component in sections 1-1, 2-2, 3-3 and 5-5 were measured by microindicators 9, 10, 11 and

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S/145/60/01/007/010/017
D221/D304

Investigating the accuracy of ..

12, whereas shifts in the system machine-component-t 1 were indicated by dial 2, 3, 4 and 8 with the use of control 5 1'. The loading device 11 is tilted at an angle α to the horizontal. The conditions of the experiment are described in section 1-1 is due to increase of equivalent force. Other shifts showed different results. An equation is given for displacement of the system in the horizontal plane due to action of m forces of the front slide. When the component is not rigid, then the displacements are determined by deformations due to bending of the component. Only rigid workpieces are considered in the article and its bending in the section where the displacement is measured has been considered. The displacements of machine-component-t 1 are related to the compliance of the system. The accuracy of the relative equation concerning the total displacements and which takes into account the coefficient of displacement is kept within $\pm 1\%$. The physical meaning of the above coefficients can be explained by variation of rigidity of the semi-automatic with increase of load, as well as with changes in the method of controlling the machine.

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Investigating the accuracy of ...

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D221/D304

front slide. The cutting forces produce deformations, and these cause reciprocal disposition of cutting tools in relation to the datum surfaces of the machined component. The displacements of the system in multi-tool turning can be considered as a sum of compliances of this system, due to action of each tool. The compliance in the case of rigid component may be assessed experimentally during turning. Tests were carried out with three tools, either by conventional turning or step-turning. The ratio between the small and large allowance was fixed at 1:10. The results permit the surface plot of compliance for the system to be made. This can be traced for any length of the rigid component, when ordinates of the curve of effect on compliance for another workpiece with different length are known. Fig. 11 indicates the surface of compliance in the case of turning with tools having a 90° rake in plane Φ . The proposed method of computing deviations in machining as a function of the compliance is made with the following assumptions. The effect of several forces of cutting on the coefficient of rigidity of assemblies in a semi-automatic is calculated by introducing the coefficient of displacement, when compared to the action of a single force. The action of components of forces is considered by

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Investigating the accuracy of ...

S/145/60/000/009/013/017
D221/D304

ordinates of the curve due to effect of the compliance which is obtained when turning specimens. The tests established that the coefficient of displacement is equal for all tools, when the rigidity of a system has a positive value. The above ordinates of compliance are easily determined without special gadgets, and using reject specimens. The operation itself is simple. There are figures. ✓

ASSOCIATION: Leningradskiy politekhnicheskii institut imeni M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: March 13, 1960

Card 4/6 4

PAVLYUK, P.G., inzh.

Errors in machining on multicut lathes depending on the rigidity
of the system. Vest. mash. 41 no.6:56-60 Je '61. (MIRA 14:6)
(Turning)

21728

S/123/61/000/003/006/023

A004/A104

1.1100

only 2908

AUTHOR: Pavlyuk, P. G.

TITLE: The rigidity of the system during the multi-tool turning of rotary cam pivot journals

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 3, 1961, 36, abstract 3B320. (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, no. 9, 1959, 15-24)

TEXT: The multi-tool 116-2 lathe was tested as to the rigidity of the system lathe - part - tool during the turning of rotary cam pivot journals with the aid of several tools. The dislocation of the system was determined by the difference in diameter turned by the measuring tool (at small cutting depths) prior to and during the action of another tool removing a big allowance. The mobile force applied to the system during the removal of a big allowance is expressed by the radial component of the cutting force. A graph is plotted expressing the regularity of dislocation changes of the system in a definite cross section as a function of the position of the mobile force maintaining a constant direction. With the aid of several graphs for different forces the combined

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The rigidity of the system during ...

S/123/61/000/003/006/023
A004/A104

effect of all forces is determined. There are 5 figures, 2 tables and 2 graphs.

S. Livshits

[Abstractor's note: Complete translation]

Card 2/2

PAVLYUK, P.O.

Displacements of the machine tool-workpiece-cutting tool systems
during machining by multiple cutting tools. Trudy LPI no.191:182-191
'57. (MIRA 11:9)

(Metal cutting)

S/123/61/000/013/008/024
A052/A101

AUTHOR: Pavlyuk, F. G.

TITLE: The effect of several forces on the rigidity of 116-2-type multi-cutter semiautomatic lathe

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 13, 1961, 49, abstract 13B309 ("Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t", 1960, no. 5, 62-68)

TEXT: In order to determine whether the rigidity of assemblies of 116-2 lathe is constant under action of a single force and several forces, a test has been made on the gear block of the intermediate shaft fixed on overhung mandrels. The block has been loaded with several horizontal-radial forces in the direction coordinated with the action of components of cutting forces and moments. The displacements of the gear block along with the overhung mandrels and the displacements of the whole system due to the acting loads have been measured by indicators mounted in various sections of the block. Diagrams of load characteristics when determining the rigidity coefficient of fixing of the gear block and the rigidity coefficient of the head support are given. It has been estab-

Card 1/2

The effect of several forces ...

S/123/61/000/013/008/025
A005/A101

lished, that the rigidity of the assemblies in question under action both of a single force and of several forces does not remain constant. An analytical formula for determining displacements of systems under action of several forces and a correction factor which allows for the discrepancy of the test and calculation results, are determined; the latter should be introduced into the calculation formula. There are 7 figures and 6 references.

I. Bernshteyn

[Abstracter's note: Complete translation]

Card 2/2

PAVLYUK, P.M.; PAVLYUK, O.I.

Method of extinguishing foam inside a fermentation battery. Spirt.
prom. 27 no.1:43-44 '61. (MIRA 14:2)
(Fermentation) (Foam)

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PERIODICAL: TAYLOR, ELLIOT, JR., 23 86-87 (JSTOR)

ABSTRACT: On 23-26 February 1959 a conference was held in Moscow for summing-up and coordinating work on autoclave processes in the metallurgy of heavy, non-ferrous, rare and noble

1. The conference heard reports as follows:
D.M. Yuktanov, Givatsvet, on progress throughout the world on the use of hydrometallurgical, particularly autoclave, methods for non-ferrous and rare metal production. G.M. Dobrokhotoy, Diprometol, on nickel leaching practice at the Shovelovo, K.I. Kuznetsov, and N. N. Dobrokhotoy on the leaching of cobalt from autoclave. A. N. Dobrokhotoy on hydrogen and carbon monoxide under pressure of nickel and cobalt from solution. I. Yu. Lezhnev and K. M. Sholopova, Diprometol, on design decisions on the application of the flowbathes dealt with by G. M. Dobrokhotoy at the Yuzhuralzinc and Severonikel. Combines and the Ufaalyskiy (Ufa) Nickel Works. I. N. Karsenitskiy, Leningradskiy gornyy Institut (Leningrad Mining Institute) on the advantages of a combined leaching-autoclave and autoclave method. V. V. Zilinskiy, Severonikel, Platinokombinat, on the use of a combined leaching-autoclave and autoclave method. V. B. Zilinskiy, Severonikel, and G. I. Sebel, Givatsvet, on the essentials of the neutral method of oxidizing leaching of nickel concentrate from converter waste. Flotation: G. I. Sebel, on preliminary investigations on the development of a sulphurous-sulphuric method for leaching nickel and cobalt from oxidized nickel ores. N. N. Karsenitskiy, Kuznetsov, on the basic results of investigations of the autoclave-leaching process for treating tungsten-ore beneficiation products. V. I. Kuznetsov, Kuznetsov, on the problems of leaching of cobalt from autoclave-leaching products. On the selection of an autoclave-leaching process to schedule and tungsten ore material: G. A. Nersisyan, K. Ya.

Card 2/3

Shapiro, M. E. Krasnykh, Institut Tsvetnykh Metallov
(Krasnoyarsk Non-Ferrous Metals Institute) on the treat-
ment of tungsten concentrates in bismuth, heated ball-
mills with acids or caustic alkalis: V. I. Spiridonova,
S. I. Sobol', Ye. I. Gulyayeva, L. I. Berlin, I. K. Nelya-
ev and B. I. Budekko. Gintsevskiy, on the treatment of
prepared and unprepared supramic polychromium raw material
by oxidizing autoclave alkaline leaching: A. I. Gusev
and S. I. Sobol', on the kinetics of alkaline autoclave
leaching: M. A. Gulyayeva and M. V. Krasovskaya
Krasovskaya, Metall Institute, on the results of a study
of conditions for the selective separation of lower oxides
of tungsten and molybdenum from their salt solutions by
hydrogen under pressure: M. V. Barilova, Gorno-
metallurgicheskii Institut (Mining-Metallurgical Institute)
of the Sovetskoye (Soviet) Council of the Artyanskaya SSR
(Armenian SSR), on his investigations of ammoniacal auto-
clave leaching under oxygen pressure of molybdenum concen-
trates: G. A. Sobol', on technical-economic factors of
ammoniacal leaching: A. I. Sigalnikov and I. M. Plaksin.
Krasnoyarsk Non-Ferrous Metals Institute, on an oxidizing
autoclave process for gold-containing raw material: M. G.
Yudin, Ural'skiy polimetallicheskii Institut (Ural
Polytechnic Institute) on the treatment of molybdenum
oxidizing sulfates: Ye. I. Gulyayeva and A. G. Podyayev.
Tsvetmetall Institut (Non-Ferrous Metals Institute) and
Beneficiation Institute of the AS Kaz SSR (Metallurgy
and Beneficiation Institute of the Kaz SSR), respectively
on the physico-chemical fundamentals and on experiments of
autoclave acid leaching of polychromatic materials: I. Yu.
Lezhnev, Gintsevskiy, on the unsuitability of autoclave
leaching for time-consuming materials: V. A. Bernhetern,
VAMI, on industrial experience of a continuous autoclave
leaching process for bauxites: V. V. Zhurav, IOMN AS
SSSR (IOMN AS USSR), on experiments of steam rare elements in
various velocity states under oxygen and hydrogen pressure
in the presence of ammoniacal ammonia solution: A. B. Zhurav,
Yantsevskiy, on the kinetics of autoclave leaching: A.
Krasovskaya, on model studies on autoclaves and the lev-
elopment of alkalis: M. A. Polynayev, E. B. Zhurav, on
the design of an experimental high-pressure ball pump
G. L. Shvarts, MIZKIMASH, on the separation of steel
for acid leaching, of cobalt matrix and water flotation
concentrate: Yu. I. Arkharov, Yantsevskiy, on the sepa-
ration of types IR-120WT, IR-120M, IR-120M and IR-120M
in soda and nitric acid solutions in the presence of metal
salts and oxygen: A. V. Zhurav, V. V. Zhurav, on the
N. N. Krasovskaya, Metall Institute, on the treatment of

1994

PAZDNIKOV, P.A.; PAVLYUK, R.A.

Processing cobalt sulfide materials by hydrosulfatizing. TSvet.
met. 36 no.5:41-45 My '63. (MIRA 16:10)

PAUL YUK, R. 17

Distr: 4820

Study of heterogeneous reactions, with application of grinding and mixing (acid decomposition of scheelite).
G. A. Meerson and R. A. Pavlovsk. *Zhur. Neorg. Khim.* 3, 137-38 (1957).--Optim. conditions in the reaction $\text{CaWO}_4 + \text{HCl} = \text{H}_2\text{WO}_4 + \text{CaCl}_2$ are studied. This reaction is used in scheelite decompos. in heated ball mills. It is found that scheelite decompos. does not require high HCl concns. as previously used.
A. Volhardt

3
1

Am

1 37 58 4-6803

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4 p 70 (USSR)

AUTHORS: Meyerson G.A., Pavlyuk, R.A.

TITLE: A Contribution to the Problem of Investigations of the Conditions for Chemical Decomposition of Solids with Formation of a Hydrate Precipitate (K voprosu ob issledovaniyakh uslovy khimicheskogo razlozheniya tverdykh veshchestv s obrazovaniyem gidratnogo osadka)

PERIODICAL: Sb. nauchn. tr. Mosk. in-t tsve'n. met. i zolota VNITO tsve'n. metallurgii, 1957, Nr 26, pp 200-211

ABSTRACT: The employment of air-tight, heated steam mills to study the solution reaction of scheelite in HCl made it possible to eliminate the inhibiting effect of hydrate films and to attain an equilibrium state of equilibrium with comparative speed. The logarithmic value of the equilibrium constant $K = \frac{[CaCl_2]}{[HCl]^2}$ approx 9.500 confirms that the high excess and high strength of HCl employed in industry is not justified by the equilibrium conditions and merely constitute a method of combatting inhibition of the reaction of the hydrate films that come into being. Employment of a steam charge in the acid treatment of scheelite provides almost

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137-58 4-6803

A Contribution to the Problem (cont.)

complete decomposition even of coarse scheelite with a small excess of reagent

1 Solids--Chemical decomposition 2 Precipitation--Apparatus L. P.

Card 1/2

PAVLUK, R.S.

Notes on some fruit tree pests of Transcarpathia. Nauk. zap. UzhGU
40:263-268 '59. (MIRA 14:4)

1. L'vovskiy gosudarstvennyy universitet.
(Vinogradov region—Fruit trees—Diseases and pests)

SOKOLOV, G.A.; PAVLYUK, S.F.

Apparatus for separating impurities heavier than water in a
hydraulic transporter. Sakh. prom. 35 no.8:42-45 Ag '61.
(MIRA 14:8)

1. Smelyanskoye spetsial'noye konstruktorskoye byuro
TSentral'nogo nauchno-issledovatel'skogo instituta sakharnoy
promyshlennosti.

(Sugar beets--Cleaning)

BAGRYANSKIY, K.V., kand.tekhn.nauk; KUZ'MIN, G.S., inzh.; PAVLYUK, S.K., inzh.

New electrodes for the manual arc welding of nickel. Svar. proizv.
no.4:22-23 Ap '61. (MIRA 14:3)

1. Zhdanovskiy metallurgicheskiy institut (for Kuz'min). 2. Berdichevskiy zavod "Progress" (for Pavlyuk).
(Nickel--Welding) (Electrodes)

CHERNYSH, V.P., inzh.; PAVLYUK, S.K., inzh.

Using a magnetic field for the control of the building-up
process. Mashinostroenie no.5:85-88 S-0 '63. (MIRA 16:12)

1. Kiyevskiy ordena Lenina politekhnicheskij institut.

PAVLYUK, S.K.; SERDYUK, I.V.

Preventing cold cracks in chemical apparatus made from VT-1 alloys.
Khim.prom. [Ukr.] no.2:48-50 Ap-Je '65.

(MIRA 18:6)

L 60134-65 EWT(m)/EPF(c)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c)

Pf-4 IJP(c) MJW/JD/HM/HB/GS

ACCESSION NR: AT5017707

UR/0000/65/000/000/0179/0186

AUTHORS: Pavlyuk, S. K.; Tushinskiy, F. M.

TITLE: Certain features of fabricating welded chemical equipment from titanium

SOURCE: AN UkrSSR, Institut elektrosvarki. Proyektirovaniye svarnykh konstrukteli
(Design of welded structures). Kiev, Naukova dumka, 1965, 179-186

TOPIC TAGS: titanium, titanium alloy, welding technique, construction material,
chemical engineering/ VT 1 titanium alloy

ABSTRACT: Problems related to welded titanium in fabrication of chemical equipment are discussed. The titanium alloy VT-1 used in this work has specific gravity of 4.5 g/cm³, strength of 60 kg/mm², ductility of 20-25%, and good cutting, welding, and melting characteristics. Its disadvantages include a tendency to react with oxygen and nitrogen (above 600C), a tendency to form fissures in the weld under high concentration of hydrogen or when the unannealed metal is subjected to plastic deformations, unsatisfactory performance under a friction load, and a significant change of its mechanical properties with an increase in temperature. The welding techniques involved in constructing pressure vessels, filters, and heat exchangers are discussed; the problem of the limited variety of titanium structural stocks is

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1 60134-65

ACCESSION NR: AT5017707

2

considered, and protection of titanium components from contamination by gases is explained. Fuller utilization of titanium in chemical equipment will depend on the findings of more detailed studies on the economics of titanium construction; the results of further technical studies on the heat treatment of titanium; the perfection of a method for welding titanium to low carbon and alloy steels; accumulating more exact information on titanium structural characteristics; the development of specific equipment that would call for less titanium and would make fuller use of its advantages. Such equipment may involve the use of titanium-lined materials. Orig. art. has: 6 figures.

ASSOCIATION: Kiyevskiy politekhnicheskii institut (Kiev Polytechnic Institute);
Berdichevskiy mashinostroitel'nyy zavod "Progress" (Berdichev Machine Construction Plant "Progress")

SUBMITTED: 13Jan65

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 000

OTHER: 000

Card 2/2 *LD*

ACCESSION NR: AP4039581

S/0184/64/000/003/0033/0034

AUTHORS: Pavlyuk, S. K. (Engineer); Tuchinskiy, F. M. (Engineer)

TITLE: Welding of nonferrous metals and high alloy steels

SOURCE: Khimicheskoye mashinostroyeniye, no. 3, 1964, 33-34

TOPIC TAGS: steel welding, steel 1Kh18N9T, steel Kh18N12M2T, steel Kh18N12M3T, steel Kh23N18, steel OKh23N28M3D3T, steel Okh13, titanium, nickel, nickel NP 2, copper, high alloy steel, chromium nickel steel, argon arc welding, gas welding, flux welding, welder UDAR 300, solder NP 2, solder NMts 2.5, alloy VT 1, steel St. 3, ceramic flux ZhN 1, ceramic flux ZhN 2, electrode Progress 50, electrode Komsomolets 100, brass L62, electrode wire Sv 25Kh25N16G7, alloy TsL 8, filler Sv 05Kh19N9F3S2, filler Sv 04Kh19N9, filler Sv 07Kh25N13, semiautomatic welder, welder A 547, welder A 537, flux AN T1, flux AN T3, flux K 8, flux AN 26

ABSTRACT: A short review of different welding techniques applied to nonferrous metals and high-alloy steel is presented by the engineers of the plant "Progress" which specializes in the production of machinery and equipment for chemical plants. The methods used in this plant were grouped as follows: 1) manual arc welding with fusible or infusible electrodes under different protective gases;

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ACCESSION NR: AP4039581

2) automatic and semiautomatic welding with different flux types and filler metals. Infusible tungsten electrodes were used in the manual argon arc welding of high-alloy steel to thin sheets of titanium, nickel, and copper. The same technique was applied to the welding of steels OKh23N28M3D3T and St. 3 if metal thickness did not exceed 4 mm. The composition of filler metals was selected to be as close as was possible to that of the welded alloys, with the exception of nickel NP-2 (which showed best results with the use of NMts-2.5 wire), and of aluminum details. Welding of the latter required special devices such as the UDAR-300 machine. In manual arc welding, the electrodes "Progress-50" were used on nickel NP-2, and the electrodes "Komsomolets-100" on the welds of steel St. 3 to brass L62. The electrodes made of wire Sv-25Kh25N16G7 coated with the TsL-8 alloy were used in welding steels St. 3 to Kh23N18. Greater economy was achieved with the arc welding under carbon dioxide with fusible electrodes and with the Sv-05Kh19N9F3S2 wire used as a filler. These welds were made with the semiautomatic welders A-547 and A-537. The latter method was applied mainly to the chromium nickel steel 1Kh18N9T. Nickel alloy NP-2 was welded to different metals semiautomatically under the ceramic flux ZhN-1 or ZhN-2 with filler metals NP-2 and Sv 04Kh19N9. Machine parts made of titanium alloy VT-1 were welded semiautomatically under the flux AN-T1 or AN-T3 with a degassed filler (hydrogen content below 0.004%). The combinations of flux K-8 and filler Sv-04Kh19N9 or flux AN-26 and filler

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ACCESSION NR: AP4039581

Sv-05Kh19N9F3S2 were used in the joints of steel 1Kh18N9T or of a two-layer steel St. 3 + 1Kh18N9T. The best results were obtained in welding of acid-resistant metals with flux AN 26 and with Sv-07Kh25N13 filler. The men who developed these techniques for nickel and titanium welding at the plant "Progress" were rewarded with a VDNKh medal. Orig. art. has: 2 tables and 2 photographs.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 19Jun64

ENCL: 00

SUB CODE: MM

NO REF SOV: 000.

OTHER: 000

Card 3/3

PAVLYUK, S.K., inzh.; TUCHINSKIY, F.M., inzh.

Some characteristics of the design and manufacture of chemical apparatus of titanium. Mashinostroenie no.1:45-48 Ja-P '63.

(MIRA 16:7)

1. Kiyevskiy ordena Lenina politekhnicheskij institut (for Pavlyuk). 2. Berdichevskiy mashinostroitel'nyy zavod "Progress" (for Tuchinskiy).

(Titanium) (Chemical apparatus)

BAGEYANSKIY, K.V., kand.tekhn.nauk; KUZ'MIN, G.S., inzh.; PAVLYUK, S.K., inzh.

New electrodes for the manual arc welding of nickel. Svar. proizv.
no.4:22-23 Ap '61. (MIRA 14:3)

1. Zhdanovskiy metallurgicheskiy institut (for Kuz'min). 2. Berdi-
chevskiy zavod "Progress" (for Pavlyuk).
(Nickel—Welding) (Electrodes)

PAVYUK, S.K., inzh., TUCHINSKIY, F.M., inzh.

Welding of nonferrous metals and high-silicy steels. Khim. mashinostroyeniya.
no.3:33-34 Mye-1e '64. (MIRA 18:1)

PAVLUK, S.K. Inzh. T. KHINCHIK, P. ., 1976.

Welding of steel of up to 10 mm thick
str. no. 133-21, 134-21

S/184/61/000/005/006/009
DC41/D113

AUTHORS: Bagryanskiy, K.V., Candidate of Technical Sciences; Kuz'min, G.S., Yagodin, P.P. and Pavlyuk, S.K., Engineers.

TITLE: Electric arc welding of nickel.

PERIODICAL: Khimicheskoye mashinostroyeniye, no. 5, 1961, 40-42

TEXT: The welding department of the Zhdanovskiy metallurgicheskiy institut (Zhdanov Metallurgical Institute), in cooperation with the workers of the Zavod "Progress" ("Progress" Plant), has developed and introduced an automatic, semi-automatic and manual electric-arc welding method of ~~NP~~-2 (NP-2) nickel permitting composite welds to be obtained. The production of the ~~ZhN~~-1 (ZhN-1) ceramic flux proposed by the institute and of the *Progress*-50 (Progress-50) electrodes developed by the authors was started at the electrode shop of the "Progress" Plant. The article contains a detailed description of the above-mentioned methods used for welding the parts of a mixing device. The casing was made of NP-2 nickel 500 mm in diameter and 3,000 mm long with welded flanges and pipe junctions. The casing walls were 10 mm

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Electric arc ...

S/184/61/000/005/006/009
D041/D113

thick, and the pipe junctions 6 mm. The mixer consisted of a steel pipe with a 3 mm nickel coating. A **TC-17M** (TS-17M) automatic welding machine the ZhN-1 flux, and an **HN-2** (NP-2) electrode wire on the flux pad with direct current of additive polarity were used for welding. A **PC-500** (PS-500) transformer served as feed source, and the flux granulation was 1.5-2.0 mm. The circumferential seams were welded using a **T-22** (T-22) welding manipulator and a **TC-17M** (TS-17M) tractor mounted on a special arrangement. The nickel pipe junctions were welded to the casing by a **PSH-5** (PSH-5) semi-automatic machine using NP-2 wire 2.5 mm in diameter. In this case, the flux granulation was 0.8-1.3 mm. The welds were examined and tested under a hydraulic pressure of 2 gage atmospheres. They were tight, with neither cracks nor gas or slag inclusions. Corrosion tests in a caustic soda solution were carried out at 50°C for 50 hours. Good results were obtained. It is concluded that the use of the above-mentioned methods for manufacturing nickel devices permitted high-quality weld joints to be obtained. There are 1 figure and 3 tables.

Card 2/2

S/135/61/000/004/005/012
A006/A101

AUTHORS: Bagryanskiy, K. V., Candidate of Technical Sciences, Kuz'min, G. S.
Pavlyuk, S. K., Engineers

TITLE: New Electrodes for Manual Arc Welding of Nickel

PERIODICAL: Svernyye proizvedeniya, 1961, No. 4, pp. 22 - 23

TEXT: Conventional EN-10, N-10, and EN-37 (N-37) electrodes for manual welding of nickel do not assure sufficiently high and stable strength of weld joints. Therefore the authors attempted to develop efficient and cheap electrodes with satisfactory technological properties, providing high quality weld joints. The thermodynamical calculation of metallurgical processes in the welding of nickel and a great number of experimental data were used as basis for investigations carried out at the welding department of the Zhdanov Metallurgical Institute and the Gerdinev "In green" Plant. As a result the new "Progress" electrodes were developed with acid type coatings containing titanium dioxide, fluorine concentrate, sodium fluoride, manganese, titanium powder, aluminum powder, bentonite and sodium silicate. The composition of the electrode coating is available at request. The electrodes are intended for manual electric arc welding. ✓

Card 1/2

New Electrodes for Manual Arc Welding of Nickel

S/135/E1/000/104/005/012
A006/A101

welding of Ni-1 nickel by GOST 849-56 and of NP-1, and NP-2 nickel by GOST 432-52. The electrodes can be manufactured by pressing or dipping. The thickness of the coating is for 3, 4 and 5 mm diameter electrodes 1 - 1.2, 1.2 - 1.3 and 1.3 - 1.5 mm respectively. The electrodes permit welding in any position with d.c. or reverse polarity. Recommendations are given as to welding condition and, preparation of edges for welding. The electrodes assure easy excitation and stable burning of the arc, satisfactory formation of the weld joint, having no pores, cracks and gaseous or slag inclusions, and showing corrosion resistance equal to that of the base metal. The electrodes are recommended for the manufacture of important nickel structures. There are 4 tables and 3 figures.

ASSOCIATIONS: Zhdanovskiy metallurgicheskii institut (Zhdanov Metallurgical Institute) (Bagryanskiy, and Kuz'min); Berdichevskiy zavod "Progress" (Berdichev "Progress" Plant) (Pavlyuk)

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(Metal-cutting tools)

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137-58-5-10096 D

Translation from Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 173 (USSR)

AUTHOR: Pavlyukevich, B. L.

TITLE: Recrystallizing Anneal of Armco Iron and 1Kh18N9T Steel with Induction Heating (Rekristallizatsionnyy otzhig armko-zheleza i stali 1Kh18N9T pri induktsionnom nagreve)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the fiz. - tekhn. in-t AN BSSR (Institute of Physics and Technology, Academy of Sciences, Belorussian SSR), Minsk, 1957

ASSOCIATION: Fiz. - tekhn. in-t AN BSSR (Institute of Physics and Technology, Academy of Sciences, Belorussian SSR), Minsk

1. Steel--Induction heating 2. Iron--Induction heating

Card 1/1

ПАВЛЮКЕВИЧ Б. Л.

137-58-5-10040

Translation from Referativnyy zhurnal. Metallurgiya 1958. Nr 5 p 165 (USSR)

AUTHORS Павлюкевич, Бодзяко, Лойко [Paulyukevich B. L.,
Badzyaka M. N., Loyka Yu. M.]

TITLE Metal Structure in Induction Annealing (Struktura metalla pri induktsionnom otzhige) [Struktura metalau pry induktsyynym adpale]

PERIODICAL Vestsi AN BSSR. Ser. fiz. - tekhn. n., Izv. AN BSSR. Ser. fiz. - tekhn. n. 1957 Nr 2, pp 47-57 (In Belorussian, summary in Russian)

ABSTRACT Experimental data derived in induction annealing of worked metals Armco iron and 1Kh18N9T steel are presented. The nature of the structure (hardened, not fully recrystallized, or fully recrystallized) is determined in accordance with the basic parameters of induction heating (temperature and rate of heating) and the degree of deformation, the temperature zones for incompletely recrystallized structures are plotted. Data on the grain size of the metals investigated are presented relative to temperature, rate of heating, and degree of deformation. Bibliography 9 references. 1. Metals--Induction heating

Card 1/1 2 Metals--Heat treatment 3. Heat--Structural analysis A B

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(Ceilings)

18.001

30V/129-80-1-10, 11

AUTHORS: Bedyako, M. N., Loyko, Ya. M., Pavlyukevich, E. L.
(Candidates of Technical Sciences), Parkhomenko, V. I.
(Engineer)

TITLE: Recrystallization Diagrams for Induction Heating

PERIODICAL: Although methods of annealing by induction heating have not been widely studied, research on the subject indicates their effectiveness in treating deformed metals and alloys, showing such advantages as (1) a fine and homogeneous structure, (2) speed, and (3) possibility of automation. In comparing the above method with regular furnace heating, the authors consider heating speed and not the holding period to be the decisive factor. Recrystallization of the following materials specimens was studied: (a) commercial iron, heated in high frequency furnace MGZ-102 to 600, 700, 800, 900, 1,000 and 1,100° C at mean heating speeds of 10, 20, 30, 40 and 50° C/sec; (b) 1Kh18N9T-steel (C, 0.14; Si, 0.3; Mn, 2.0; Cr, 17.0 to 20.0; Ni, 8.0 to 11.0;

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Recrystallization Diagrams for Industrial
Heating

Fig. 1
307, 1967, 1968

Si, 0.3%; P, 0.03%; Ti, 0.04%) heated at 100, 200, 300, 400, 500, 600, 700, 800, 900 and 1,000°C at 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900 and 1,000°C/sec. Heated specimens were automatically immersed in water in order to fix the structure. (1) Influence of prior deformation on grain size: (a) Commercial iron with a deformation range of 5-75% has a 1.5 to 2 times finer grain (see Fig. 1) at recrystallization temperature. (b) 1Kh18N9T-steel with a deformation ranging between 11 and 75% has a slightly refined grain (see Fig. 2). Deformations from 30-75% hardly affect the grain size. (c) Copper also has refined grains at increased rates of deformation (see Fig. 3). Deviations from the mean grain size with deformation ranging from 10 to 75% amount to a maximum of 2 μm at 900°C and to 4 μm at 1,000°C. (2) Effect of heating temperatures: (a) in commercial iron at 75% and 15% deformation (at 900°C) the mean grain size amounts to 31 and 37 μm, respectively. (b) in 1Kh18N9T-steel temperatures

Card 1 of 1

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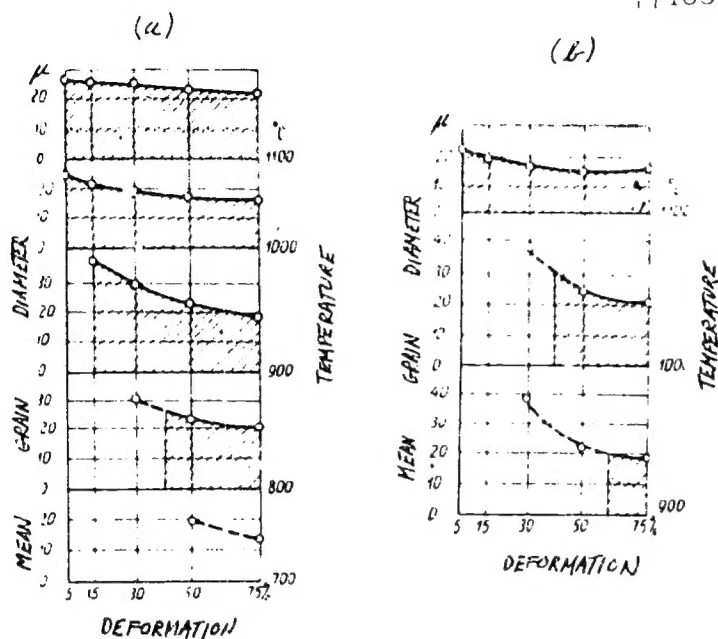


Fig. 1. Recrystallization diagram of commercial iron (a), at a speed of induction heating of 500°C/sec, and (b) at 650°C/sec heating speed.

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